ABSTRACT

A peak power suppressing apparatus for suppressing the peak power with simple process without deteriorating the error characteristics of multi-carrier signals. In this apparatus, a modulation section (100) modulates transmission data. A coding section (110) codes the modulated data. An S/P conversion section (120) S/P converts the coded data and outputs the obtained parallel data of a plurality of sequences to an IFFT section (130). The IFFT section (130) performs inverse fast Fourier transform on the parallel data to generate an OFDM signal. A GI adding section (140) adds a guard interval to the OFDM signal. A power conversion section (150) converts the power of the OFDM signal using the non-linear function. A D/A conversion section (160) D/A converts the OFDM signal after the power conversion. A wireless transmission section (170) amplifies the power of the analog signal, performs a predetermined wireless transmission process such as up conversion and transmits the result via an antenna (180).

FIG.1

100 MODULATION SECTION

110 CODING SECTION

120 S/P CONVERSION SECTION

130 IFFT SECTION

140 GI ADDING SECTION

150 POWER CONVERSION SECTION

160 D/A CONVERSION SECTION

170 WIRELESS TRANSMISSION SECTION

TRANSMISSION DATA

FIG.2

152 $\tan^{-1}$ CALCULATION SECTION

154 COEFFICIENT STORAGE SECTION

FROM GI ADDING SECTION 140

TO D/A CONVERSION SECTION 160

FIG.6

152 TAN^{-1} CALCULATION SECTION

156 COEFFICIENT DETERMINATION SECTION

158 PARAMETER ACQUISITION SECTION

FROM GI ADDING SECTION 140

TO D/A CONVERSION SECTION 160